



# MEMORANDUM

*Engineering Division*

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To: Transportation Subcommittee Members Mayor Esteves and Vice-Mayor Gomez  
Through: Charles Lawson, City Manager  
From: Greg Armendariz, Director of Public Works/City Engineer  
By: Jaime O. Rodriguez Acting Traffic Engineer  
Subject: **Tech Memo –Carlo St Reopening at Abel St & Calaveras Blvd**  
Date: November 21, 2006

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**Recommendations:** 1.) Direct staff to begin outreach with the State of California – Department of Transportation, Caltrans, to further study the conversion of the Carlo St on-ramp to eastbound Calaveras Blvd to an Off-ramp.

**Background:**

During the November 7, 2006 City Council meeting, staff was directed to study the intersection of Abel St & Calaveras Blvd to determine if Carlo St, which previously provided direct access to the Midtown District from eastbound Calaveras Blvd, could be reopened. This technical memorandum is in response to that request.

The intersection of Abel St & Calaveras Blvd is a Caltrans owned, operated & maintained facility as is the rest of Calaveras Blvd between the westerly City Limits and Dempsey Wy. In 2005, the City received permission from Caltrans to modify the intersection in order to begin implementation of the Environmental Impact Report (EIR) recommended traffic mitigations at the intersection for the build-out of Midtown. The EIR mitigations include the following improvements for the intersection:

- 1 Addition of a dedicated northbound right turn lane on Abel St,
- 2 Addition of a dedicated “Overlap” signal movement that allows traffic in the new northbound lane to move concurrently with eastbound left-turn traffic from Calaveras Blvd,
- 3 Closure of the Carlo St entry at the intersection to allow the Overlap signal movement to function properly, and
- 4 Addition of a second eastbound left-turn lane on Calaveras Blvd.

These improvements were recommended in the EIR to mitigate PM-peak hour traffic conditions from a Level of Service (LOS) “F”, which is considered a significant impact, to a LOS “D”. This intersection is also a VTA Congestion Management Program (CMP)-monitored intersection.

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The City is implementing the EIR mitigations in two phases. Phase 1 was completed in June 2005 and includes the implementation of the first three improvements. Phase 2 is a future project that includes implementation of the fourth improvement to add a second eastbound left-turn lane on Calaveras Blvd. Implementation of Phase 2 requires the widening of Calaveras Blvd including a bridge widening over Penitencia Creek. The bridge widening was deemed cost-prohibitive during the implementation of Phase I.

During the design of the Phase I Improvements, it was decided to maintain ingress capabilities to the Midtown District via Carlo St to emergency vehicles only via the installation of removable bollards. The bollards also allow for the accommodation of pedestrians & bicycles to Midtown.

Figure 1 includes an aerial photo of Abel St & Calaveras Blvd prior to the implementation of the improvements. Figure 2 includes a rendering of the improvements. Both figures include a simplified traffic signal phasing diagram that details the operations of the signal to assist in viewing the operations of the traffic signal before and after the improvements.

## Analysis:

### Crash History

The Phase I improvements at Abel St & Calaveras Blvd were completed in June 2005 as recommended in the EIR. Prior to the completion of Phase I, Abel St & Calaveras Blvd was historically one of the intersection with the most crashes per year in the City; the most typical crash types include rear-end crashes on Calaveras Blvd. Rear-end crashes would not be considered unusual at the intersection prior to the completion of the Phase I improvements because of contributing factors such as the existing traffic signal, the high volume and speed of vehicles on Calaveras Blvd, the complex roadway configuration of Calaveras Blvd, and most importantly, the complex intersection geometry with five approaches at the intersection. West of the intersection, Calaveras Blvd has consecutive horizontal curves between Serra Wy and Abel St which reduce sight distance to the Abel St & Calaveras Blvd intersection. East of the intersection, Calaveras Blvd has a vertical curve that drops down from the top of the Union Pacific railroad overpass.

Since the Carlo St Closure there has been a significant reduction in crashes at the intersection. The table below summarizes the number of crashes at the intersection by year both before and after the closure of Carlo St and the annual citywide crash ranking of the intersection.

**Table 1: Crash Summary – Abel St & Calaveras Blvd**

Year	Total No. Crashes	Annual Crash Ranking
2003	23	2
2004	22	1
Jan to June 2005	9	2
Completion of Phase I Midtown EIR Mitigation Improvements		
July to Dec 2005	3	-
2006-to-Date	6	-

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*Carlo St Reopening –Post Phase I Improvements at Abel St & Calaveras Blvd*

The already-implemented Phase I improvements at Abel St & Calaveras Blvd prohibit the reopening of Carlo St entry to the intersection for pedestrian safety, traffic safety and intersection operations concerns. With the new improvements, the previous Carlo St entry now has three main conflicts at the Abel St & Calaveras Blvd intersection that prohibit its reopening:

- The sidewalk zone where pedestrians wait to cross the intersection is directly in front of the Carlo St Closure,
- The pedestrian movements across Abel St on the south side of the intersection cross directly in front the Carlo St Closure, and
- The new northbound right-turn lane on Abel St also stops vehicles directly in front of the Carlo St Closure

With the above conflicts an entry to Carlo St from the intersection of Abel St & Calaveras Blvd would not be considered “safe” and likely not approved by Caltrans. Without Caltrans approval, the reopening of the previous Carlo St entry cannot occur. See Figure 3 for Carlo St Closure Configuration.

In order to provide direct access to the Midtown District from eastbound Calaveras Blvd, a new entry east of the intersection can be provided but it requires the conversion of the existing Carlo St On-Ramp to eastbound Calaveras Blvd to an Off-Ramp.

*Carlo St Ramp Conversion*

The conversion of the existing Carlo St On-Ramp to eastbound Calaveras Blvd to an Off-Ramp would provide direct access to the Midtown District as desired by the City Council. Approval from Caltrans would be required and preliminary approval from Caltrans to begin further studies recommended in efforts to avoid studies that may yield even more costly improvements if Caltrans does not even support the ramp conversion in concept. Figure 4, Carlo St Off-Ramp Configuration Option, provides a rendering of what an off-ramp from eastbound Calaveras Blvd may look like.

The ramp conversion may also provide the following additional benefits:

- Maintenance of Phase I Improvements at Abel St & Calaveras Blvd
- Gateway Sign opportunities to the Midtown District via roadway vacation of existing Carlo St
- Beautification of Calaveras Blvd through landscape improvements

An amendment to the Midtown EIR would be required to properly identify impacts to the Midtown District and Calaveras Blvd.

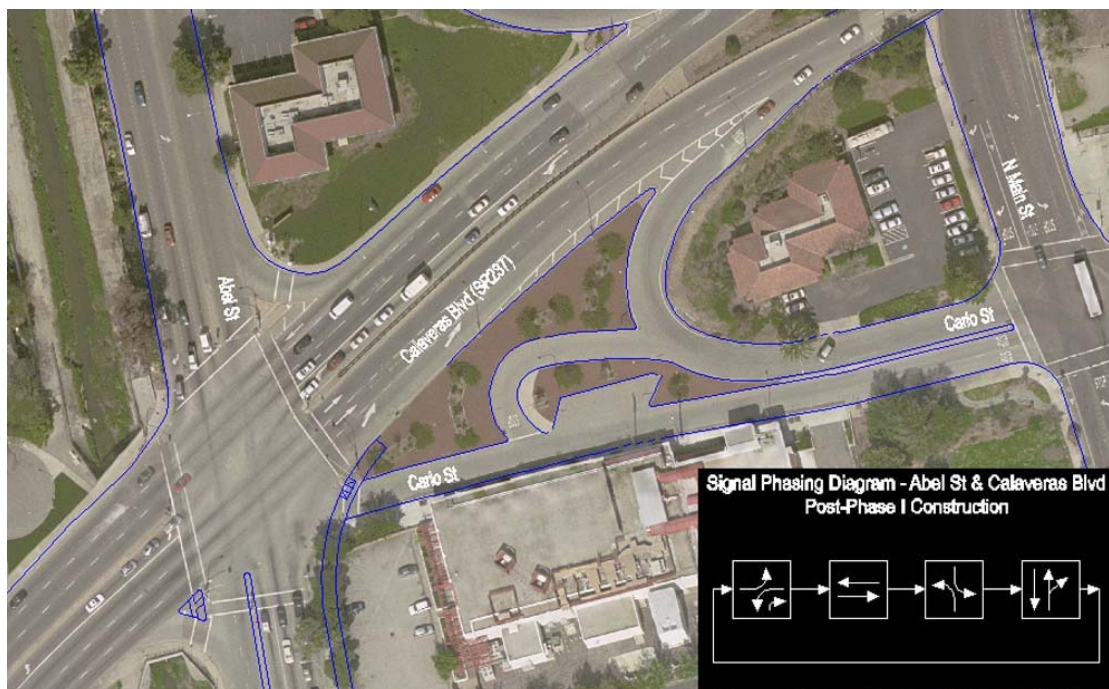
**Recommendation:**

In order to provide direct access to the Midtown District from eastbound Calaveras Blvd, staff recommends beginning outreach to Caltrans to determine if further studies are feasible to convert the existing Carlo St On-ramp to eastbound Calaveras Blvd to an Off-ramp as shown in Figure 4. Upon preliminary authorization from Caltrans for the ramp conversion, further estimates for studies and construction costs can be provided.

**Figure 1:**  
**Abel St & Calaveras Blvd Pre Construction Intersection Configuration**



**Figure 2:**  
**Abel St & Calaveras Blvd Post-Construction Intersection Configuration**



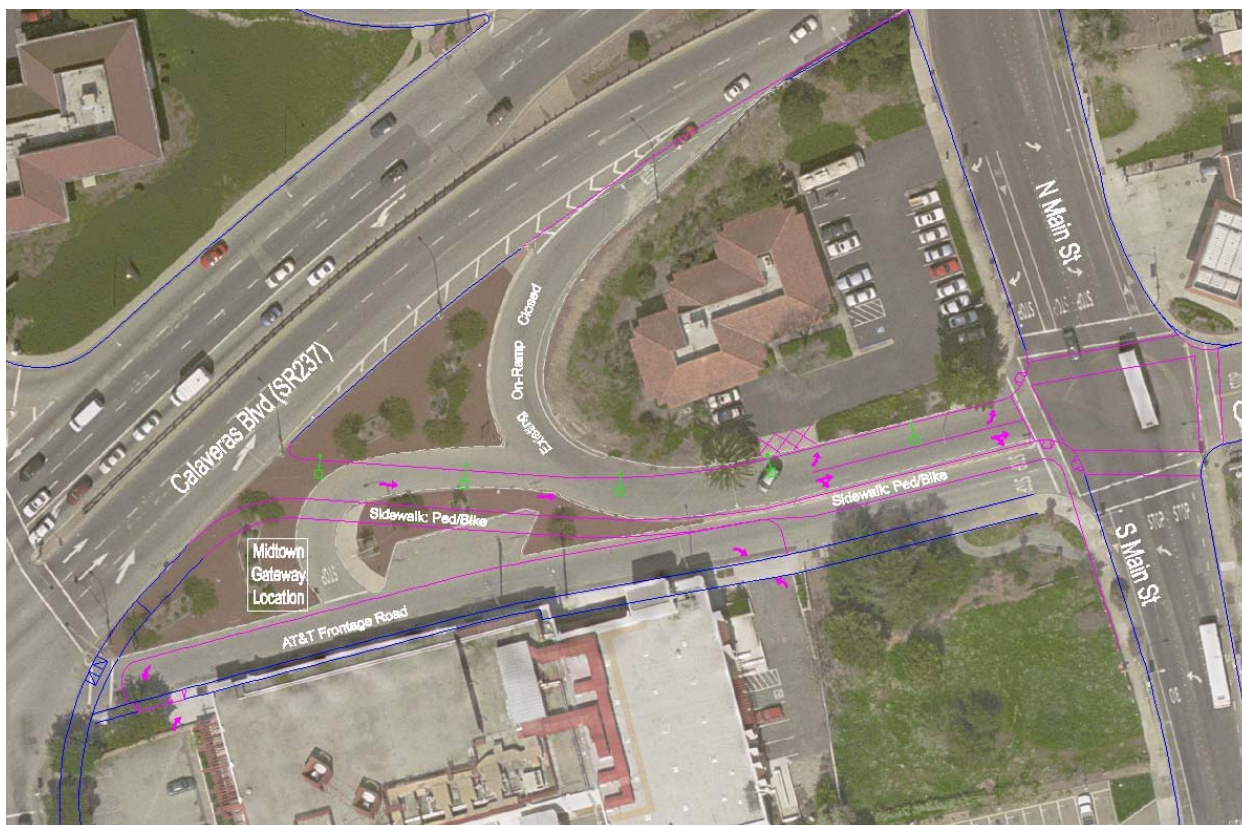
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**Figure 3:**  
**Carlo St Closure Configuration**





**Figure 4:  
Carlo St Off-Ramp Configuration Option**



- Existing Carlo St On-Ramp to Eastbound Calaveras Blvd Closed
- New Off-Ramp from Eastbound Calaveras Blvd to Carlo St Provided
- Traffic Signal Modification at Abel St & Calaveras Blvd Required (Not Shown)
- Traffic Signal Installation at Main St & Carlo St/Off-Ramp Required (Not Shown)